

In the Claims

1. (Currently Amended) A method of generating a welding arc comprising the steps of:

initiating wire feed speed at a first speed;

temporarily reducing wire feed speed below the first speed for a period of time based on detection of arc initialization and a user selected speed; and

adjusting wire feed speed based on the user selected speed.

2. (Original) The method of claim 1 wherein the step of initiating wire feed speed is further defined as initiating wire feed speed at a run-in value and wherein the period of time is determined by the user selected speed.

3. (Original) The method of claim 2 wherein the period of time is 50 ms.

4. (Original) The method of claim 1 further comprising the step of detecting initialization of a welding arc.

5. (Original) The method of claim 4 further comprising the step of delaying a wire drive power until after generation of a welding power signal by a power source.

6. (Original) The method of claim 5 wherein a duration of the delay is less than approximately 20 ms.

7. (Original) The method of claim 1 further comprising initiating a power source power signal and initiating a wire feeder power signal by a trigger.

8. (Original) The method of claim 1 further comprising at least one of the steps of pulling wire from a spool to a torch, pushing and pulling wire to a torch, and pushing wire to a torch.

9. (Previously Presented) A method of establishing a welding arc comprising:
defining a wire feed speed based on a user selected wire feed speed;

introducing a wire to a desired weld area at an initial run-in speed that is less than or equal to the user selected wire feed speed; and

reducing the wire feed speed below the initial run-in speed before the wire feed speed reaches the user selected wire feed at weld stabilization.

10. (Original) The method of claim 9 wherein the reduction of the wire feed speed is based on arc initialization.

11. (Original) The method of claim 9 further comprising determining a duration of the reduced wire feed speed based on the user selected wire feed speed.

12. (Original) The method of claim 9 further comprising generating a weld power prior to powering a wire feeder.

13. (Original) The method of claim 9 further comprising at least one of pulling wire from a wire spool to a torch, pushing and pulling wire to a torch, and pushing wire to a torch.

14. (Previously Presented) The method of claim 9 wherein the wire feed speed is reduced to approximately zero between the initial run-in speed and achieving the user selected wire feed speed.

15. (Original) A welding system comprising:
a power source configured to generate a power signal suitable for welding;
a wire feeder connected to the power source and configured to deliver a consumable wire electrode to a weld at a wire feed speed; and
a controller connected to the wire feeder and configured to automatically set a rate of acceleration of the wire feed speed, then, while maintaining a direction of wire feed, abruptly reduce the wire feed speed before welding arc stabilization and then set the wire feed speed to a relatively stable speed for welding.

16. (Original) The system of claim 15 further comprising a detection circuit in communication with the controller and configured to detect at least one of welding arc initialization and welding arc stabilization.

17. (Original) The system of claim 16 wherein the detection circuit is in serial communication with the controller and is in at least one of the wire feeder and the power source.

18. (Original) The system of claim 15 further comprising a wire feed speed selector knob connected to the controller and configured to communicate a welding wire feed speed thereto.

19. (Original) The system of claim 18 wherein the controller is configured to override the welding wire feed speed until welding arc stabilization.

20. (Original) The system of claim 19 wherein the controller overrides the welding wire feed speed for a duration determined by the wire feed speed.

21. (Original) The system of claim 15 further comprising a torch having a trigger wherein activation of the trigger initiates the power signal suitable for welding and a wire feeder power.

22. (Original) The system of claim 21 wherein the controller generates a delay between the initiation of the power signal suitable for welding and the wire feeder power.

23. (Original) The system of claim 22 wherein the delay is less than approximately 20 ms.

24. (Original) The system of claim 15 wherein the wire feeder is configured to pull the consumable wire electrode to a torch.

25. (Currently Amended) A welding system comprising:
a power source configured to generate a power signal suitable for welding-type applications;
a wire feeder constructed to deliver a filler material to a weld; and

means for controlling a filler material delivery rate that reduces the delivery rate after initiation feeding the filler material without reversing a delivery direction based on welding arc initialization prior to arc stabilization.

26. (Original) The system of claim 25 further comprising means for detecting arc condition.

27. (Original) The system of claim 26 wherein the detecting means detects an initial arc condition and a stable arc condition.

28. (Original) The system of claim 25 wherein the controlling means instructs a delivery rate of a user defined wire feed speed after welding arc stabilization.